

Work Order ID 48222

June 26, 2009 11:11:43 AM



Page 1

Item ID: D350-748-201

Accept



Setup Start



Revision ID: D

Item Name: Crosstube Installation, High Aft

Stop



Start Date: 15/07/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

N/A

Rev D

100

0.00



DOCUMENT CONTROL

DC

Memo

Photocopy bluefile & type labels per PPPD350-748-201

CHG001

8 09/08/13

110

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT

120

0.00



QC15- Crosstube Dimensional Check

QC

Memo

0.00

Quality Control

Cross Tube



Work Order ID 48222

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Page 2

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Start Date: 15/07/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130



Crosstubes

Crosstubes

0.00

Memo

0.00

Crosstubes

1-Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs, □ Set-up
drill table as per QSI 010 □ 2-Deburr □ 3-Engrave Part # and Batch # as per Dwg
D350-748-241 □ 4-Remove all marks from tube within limits of D350-748-
241 □ 5- Apply a light coat of LPS3 on t



140



QC

Quality Control

QC6- Inspect dimensions to drawing

0.00

Memo

0.00



150



Outsource3

Outsource process - Cad plate

Outsource process-Cadplate per QSI017 4.1.9.1

0.00

Memo

0.00

Issue P/O: 10020 (Stress relief at 375° for 5 hours) Magnetic
Particle Inspect per ASTM E1444 □ Cadmium Plate per AMS-QQ-P-416B, Class
1, Type 2 □ Embrittle relief at 375° for 8 hours, Chromate Treat □ Possible
Supplier: Southwest United Industries □ Ens

C209/07/07 ①

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Revision ID: D

Stop



Item Name: Crosstube Installation, High Aft

Start Date: 15/07/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

Receive & Inspect for Damage & Mat'l Certs

0.00



Packaging

Memo

0.00

Packaging

Ensure certificate of conformity is attached

16 9/7/28 (1)

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

=> S 09/07/30

(10) 4

180

SprayPaint

0.00



SprayPaint

Memo

0.00

Spray Painting

1-Prime inside crosstube as per QSI 005 4.2 2-Paint Outside of Tube as per Dart QSI 005 4.2

m/ 09 08 07 (1)

Work Order ID 48222

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Page 4

Item ID: D350-748-201

Accept



Setup Start



Revision ID: D

Stop



Item Name: Crosstube Installation, High Aft

Start Date: 15/07/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC14- Inspect Spray Paint

0.00

⇒ RT 07-08-11



QC

Memo

0.00

Quality Control

Then, Wrap in plastic bag to protect from scratches

200

Crosstubes

0.00



Crosstubes

Memo

0.00

Crosstubes

1-Install Ground wire Insert, then insert screw and washer; 12-Install Abrasion strips as per Dwg D350-748-241 & QSI 035; 13-Install supports Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS

⇒

M 09 08 11 (1)

210

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

⇒ 8 09/08/12

(1) 8

Work Order ID 48222

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Page 5

Item ID: D350-748-201

Accept



Setup Start



Revision ID: D

Stop



Item Name: Crosstube Installation, High Aft

Start Date: 15/07/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan:

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220



Packaging

Pick Kit

0.00

Memo

0.00

Packaging

9/8/13 SP P107

230



QC

Quality Control

QC4- 100% Inspect kits for completeness

0.00

Memo

0.00

2) 800/08/13

(H) Ø

240



Packaging

Packaging

Packaging

Memo

0.00

0.00

SP

1

MD 09/08/13

Identify and pack for shipping as per PPP D350-748-

2011 Location: _____ PPP Rev: _____


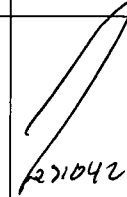
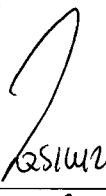
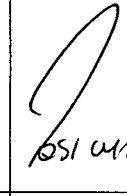
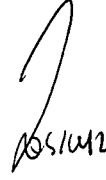
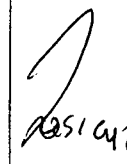
A

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D350-748-201 PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: LA Date: 09.08.20

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR: <u>48222</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
9/6/13	220	Parts missing from Part List. R.C. not adjusted correctly from cost to intuitive		ADD missing parts D3500-1 Saddles QTY x4 B# <u>45668</u> ① <u>46574</u> ③	SY 9/8/13	S 02/06/13		S 05/06/13
		change all		AN4-41A Bolts QTY x8 B# <u>m112082</u> (x4) <u>m110363</u> (x4) Already adjusted in w/o	MD 09/08/13	S 09/08/13		S 09/08/13
				48221				S 09/08/13

NOTE: Date & initial all entries

Work Order ID 48222

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Item ID: D350-748-201

Accept



Setup Start



Revision ID: D

Stop



Item Name: Crosstube Installation, High Aft

Start Date: 15/07/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 03/08/2009 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: Date: Tooling: Date:

Stop



QC: Date: SPC (Y/N): Date:

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

250

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/08/19 HJ

MF 09-08-19

Picklist Print

June 26, 2009 11:11:42 AM

Page 1

Work Order ID: 48222

Parent Item: D350-748-201RevD

Parent Item Name: Crosstube Installation, High Aft










Comments:

Start Date: 15/07/2009

Required Date: 03/08/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ MS21042L5 		Purchased	No			120	Each	0.0000	4.0000			
Nut ✓ ALS4-1032-225 		Purchased	No			200	Each	0.0000	1.0000			
Insert ✓ AN960JD10 		Purchased	No			200	Each	0.0000	1.0000			
Washer ✓ D2856-400RevA 		Manufactured	No			200	f	0.0000	1.2432			
Abraison Strip ✓ D350-748-241TRNRevD 		Manufactured	No			200	Each	0.0000	1.0000			
Crosstube Turning Detail ✓ MS21920-20 		Purchased	No			200	Each	0.0000	2.0000			
Clamp (per MIL-DTL-8783C) ✓ MS27039-1-10 		Purchased	No			200	Each	0.0000	1.0000			
Screw ✓ AN4-6A 		Purchased	No			230	Each	0.0000	16.0000			
Bolt ✓ AN5-32A 		Purchased	No			230	Each	0.0000	4.0000			
Bolt												

M111127 SP

B110768 ml 09 08 11

B111668 ml 09 08 11

B42437 ml 09 08 11

48222 SP

ml 09 08 11 B110536

B111425 ml 09 08 11

M111279 SP

M111916 SP
9/8/13

Picklist Print

June 26, 2009 11:11:42 AM

Page 2

Work Order ID: 48222

Parent Item: D350-748-201RevD

Parent Item Name: Crosstube Installation, High Aft






Comments:

Start Date: 15/07/2009

Required Date: 03/08/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ AN960JD416 		Purchased	No			230	Each	0.0000	32.0000			
Washer ✓ AN960JD516 		Purchased	No			230	Each	0.0000	8.0000			
Washer ✓ D3501-1RevA 		Manufactured	No			230	Each	0.0000	16.0000			
Bushing ✓ D3502-1RevB 		Manufactured	No			230	Each	0.0000	2.0000			
Support ✓ MS21042L4 		Purchased	No			230	Each	0.0000	24.0000			
Nut												

111916 SP

M112082 SL

B245402 SP

B47120 ml 09 08 11

110507

9/8/13

B45668 ①

46594 ③ SL

✓ D3500-1

June 26, 2009 11:11:42 AM

Shop Packet Print

Page 2

Date: Wednesday, 27/05/2009 12:54:25 PM
 User: Julie Dawson

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : 350/355 AS X-TUBE AFT
Job Number : 48222	
Estimate Number : 12486	
P.O. Number :	Part Number : D350748201
This Issue : 27/05/2009 S.O. No. :	Drawing Number : N/A
Prsht Rev. : NC	Project Number : N/A
First Issue : / / Type : CROSSTUBES	Drawing Revision : D
Previous Run : 48221	Material :
Written By :	Due Date : 17/06/2009 Qty: 1 Um: Each
Checked & Approved By : <u>JUL 09.05.27</u>	
Comment : Est Rev: A New Issue 06-07-05 JLM Est Rev: B Update qty of MS21042L5 06-09-12 KJ Est Rev C Combined manufacturing 08.04.02 EC verified by: DD Est Rev:D 08-06-24 revD as per dwg DD verified by:EC Est Rev: E 08.12.11 Step17 was step 21 KJ Verified by:	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0 ✓ DC

DOCUMENT CONTROL



Comment: Photocopy bluefile & type labels per PPPD350-748-201 CHG001

2.0 ✓ D350748241TRN

Crosstube Turning Detail



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

CROSSTUBE TURNING DETAIL

batch B-47165

MB 09-06-12 ①

3.0 ✓ BENDING

BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

Bend tube as per Dwg D350-748-241 using CNC bender program D350A and Folio FT MB 09-06-12 ①

4.0 ✓ QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES

5.0 ✓ CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill Tube as per Dwg D350-748-241 Using DT8876 Drill Jigs,
 Set-up drill table as per QSI 010

2-Deburr

MB 09-06-15 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 27/05/2009 12:54:26 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT

Job Number: 48222

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

3-Engrave Part # and Batch # as per Dwg D350-748-241

mt 09-06-15

4-Remove all marks from tube within limits of D350-748-241

- Avn 9-6-17

5- Apply a light coat of LPS3 on the interior of tube

Batch:

17102956

Avn 9-6-17 (1)

6.0 ✓ QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

8/06/17

7.0 ✓ OUTSIDE SERV.10

OUTSIDE SERVICES -skids



Comment: Sub-Contracting OUTSIDE SERVICES

Issue P/O: _____

Stress relief at 375° for 5 hours

Magnetic Particle Inspect per ASTM E1444

Cadium Plate per AMS-QQ-P-416B, Class 1, Type 2

Embrittle relief at 375° for 8 hours, Chromate Treat

Possible Supplier: Southwest United Industries

Ensure Certificate of Conformity is attached

8.0 ✓ PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure certificate of conformity is attached

9.0 ✓ QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8/07/30 (1)

10.0 ✓ SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside crosstube as per QSI 005 4.2

2-Paint Outside of Tube as per Dart QSI 005 4.2

ml 09 08 07 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 27/05/2009 12:54:26 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT

Job Number: 48222

Part Number: D350748201

Job Number:



Seq. #: Machine Or Operation: Description :

11.0 ✓ QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

12.0 ✓ D2856400

Abrasion Strip



Comment: Qty.: 1.2401 f(s)/Unit Total: 1.2401 f(s)

Abrasion Strip 7.10" long x2

Batch: 42437

ml 09 08 11

13.0 ✓ ALS41032225

Insert



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Insert

Batch: 110768

ml 09 08 11

14.0 ✓ AN960JD10

Washer



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Washer

Batch: 111668

ml 09 08 11

15.0 ✓ MS2192020

Clamp (per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

Clamp (per MIL-DTL-8783C)

Batch: 110536

ml 09 08 11

16.0 ✓ MS27039110

Screw



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Screw

Batch: 111425

ml 09 08 11

17.0 ✓ D35021

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

SUPPORT

Batch: 47120

ml 09 08 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 27/05/2009 12:54:26 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT

Job Number: 48222

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

✓ CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install Ground wire Insert, then insert screw and washer

2-Install Abraison strips as per Dwg D350-748-241 & QSI 035.

3-Install supports Using Dt8876 as per Dwg D350-748-241, Torque to 60-80 IN-LBS

19.0

✓ QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

508/68/12 (4)

20.0

✓ PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

21.0

✓ D35001

Saddle



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)
350 SADDLE

Batch: _____

22.0

✓ D35011

Bushing



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)
BUSHING

Batch: _____

23.0

✓ AN46A

Bolt



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)
Bolt

Batch: _____

24.0

✓ AN441A

bolt



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)
bolt
Batch: _____

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT

Job Number: 48222

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0



AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: _____

26.0



AN960JD416

Washer



Comment: Qty.: 32.0000 Each(s)/Unit Total : 32.0000 Each(s)

Washer

Batch: _____

27.0



AN960JD516

Washer



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

Washer

Batch: _____

28.0



MS21042L4

Nut



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)

Nut

Batch: _____

29.0



MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Nut

Batch: _____

30.0



QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

31.0



PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-748-201

Location: _____

PPP Rev: _____

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 27/05/2009 12:54:26 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350/355 AS X-TUBE AFT

Job Number: 48222

Part Number: D350748201

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0



QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

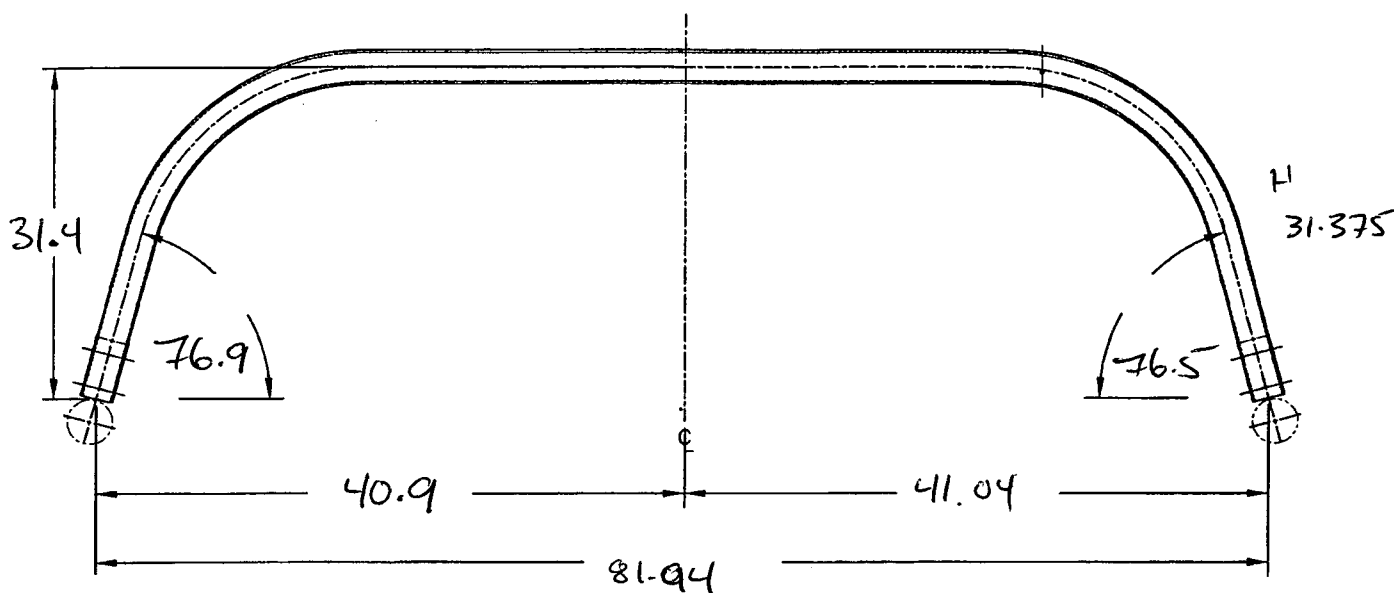
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 48222
Description: Crosstube High Aft (AS350/355)		Part Number: D350-748-201
Inspection Dwg: D350-748-241 Rev: D		Page 1 of 1

Required Dimension	Min	Max
Height	31.22	31.48
1/2 Span	40.77	41.03
Angle	75	77
Total Span	81.54	82.06



Comments
Tube is good, only a 0.080" difference from cuff to cuff.

QC15 Inspection	<i>[Signature]</i>
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM <i>[Signature]</i>	<i>[Signature]</i>

[Signature]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN <i>qp</i>	DRAWN BY <i>qp</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>///</i>	APPROVED <i>///</i>	DRAWING NO. D350-748-241	REV. D SHEET 1 OF 3
DATE 06.10.31		TITLE CROSSTUBE (AS 350/355 HI AFT)	SCALE NTS
A	06.03.31	NEW ISSUE	
B	06.06.30	ADD D6018-125 & PRIME AND PAINT	
C	06.08.14	ADD CAD PLATING	
D	06.10.31	MAG. PARTICLE AND CAD PLATE AS MFD.	

RELEASED

06.10.31 *///*

QTY	P/N	DESCRIPTION
X	D350-748-241	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
1	D6018-125	CROSSTUBE (OR D6015-125)
2	D3502-1	SUPPORT
2	D2856-400-710	ABRASION STRIP
1	AELS-1032-225	INSERT
1	AN960JD10	WASHER
2	MS21920-20	CLAMP (PER DART SPEC. M-MS21920-20)
1	MS27039-1-10	SCREW

D350-748-141 CROSSTUBE:

- MATERIAL: MANUFACTURED FROM D6018-125 OR D6015-125
FINISHED LENGTH = 122.70±0.06
- MACHINE PER MACHINING DETAIL ON PAGE 3. BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITIONS SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.
- SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- HEAT TREAT TO MIN. 180 KSI PER MIL-T-6736 OR AMS 2759-1C AFTER TURNING
- FINISH: MAGNETIC PARTICLE INSPECT PER DART QSI 038 4.2
CADMIUM PLATE PER AMS-QQ-P-416B, CLASS 1, TYPE II
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS: SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.
- INSTALL D2856-400-710 ABRASION STRIP WITH A GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D3502-1 SUPPORT, PER QSI 035.
- TORQUE MS21920-20 CLAMPS 60 TO 80 IN-LB
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE IN INCHES
- PART IS SYMMETRIC ABOUT CENTERLINE EXCEPT FOR Ø0.297 HOLE.

UNDER REVIEW

09.02.05
Per PCR #09-001

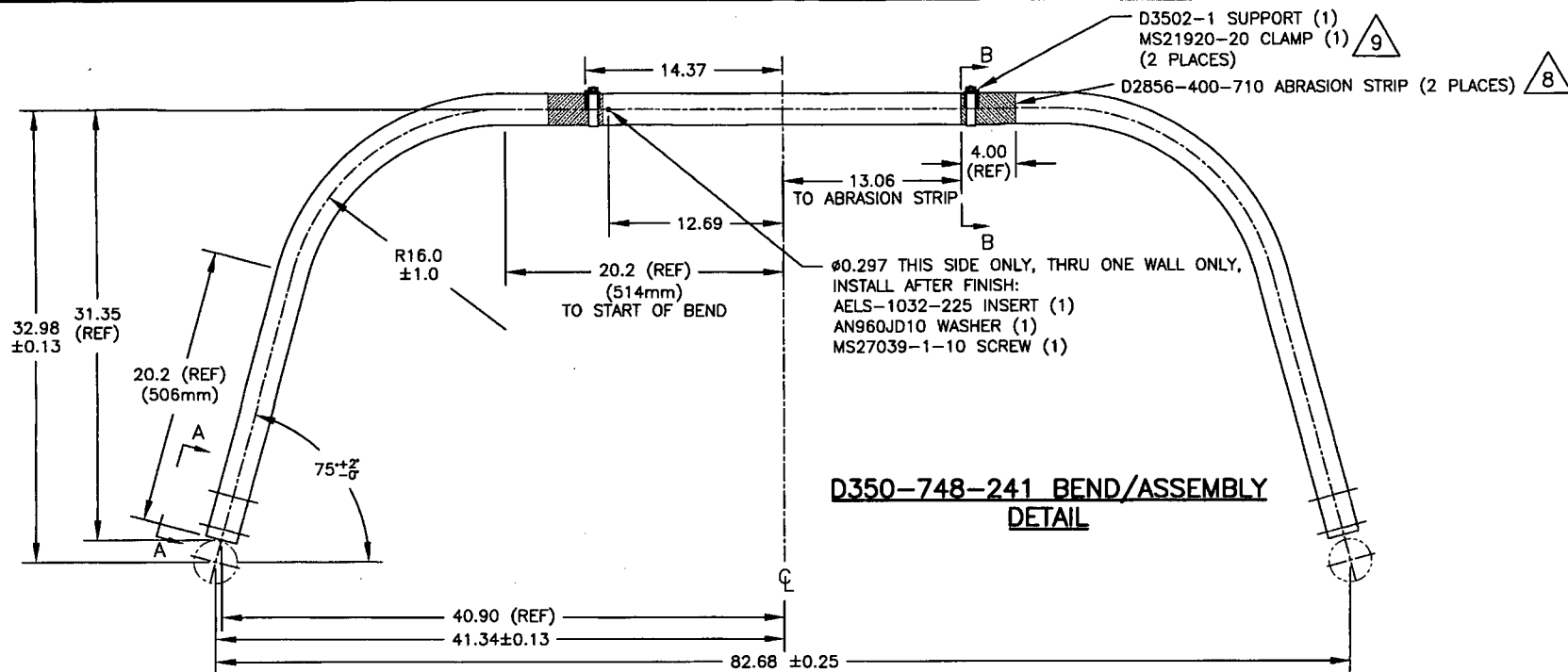
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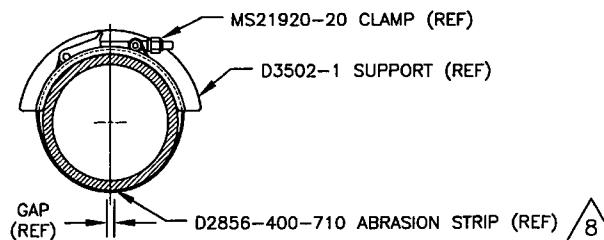
07.02.16
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07.02.22

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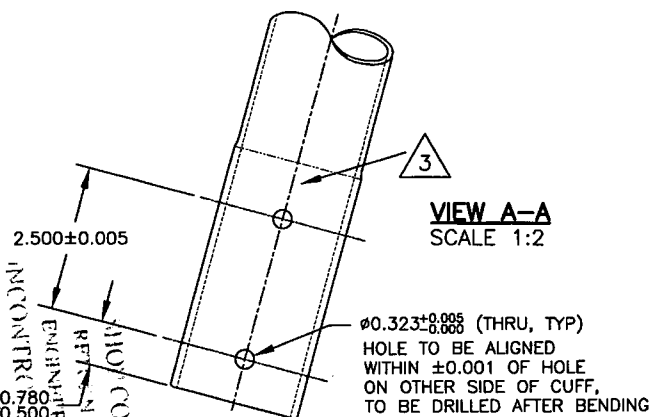
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SECTION B-B
SCALE 1:2



VIEW A-A
SCALE 1:2



UNDER REVIEW
09.02.05

UNDER REVIEW
07.02.06
OK 4/07.10.22

RELEASED
06.10.31

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DART AEROSPACE LTD.

DESIGN 40	DRAWN BY 40	DART	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED 40	APPROVED 40	DRAWING NO. D350-748-241	REV. D SHEET 2 OF 3
DATE 06.10.31	TITLE CROSSTUBE (AS 350/355 HI AFT)	SCALE 1:8	

NO. 40
WHILE ORDERED
WITHOUT NOTICE
IN CONTACTED COPY
ENGINEERING
REFS. NTO
COPY

Packing Slip



Cadorath Plating Co. Ltd.

2150 Logan Avenue, Winnipeg, Manitoba R2R-0J2

Phone: (204) 633-9420 Fax: (204) 633-8033

Sold To:

Dart Aerospace Ltd.

1270 Aberdeen St.

Hawksbury, ON K6A 1K7

ShipTo:**INVOICE NUMBER:**

45402

Net 2% Interest Per Month charged on Overdue Accounts.

Any claims for shortages, overcharges, or damaged goods must be made within seven (7) days from receipt of goods.

Customer Order #:	Date Received:	Terms:	G.S.T. #:	Ship Via:	Ship Date:
10020	Jul-14-2009	NET 30 DAYS	10071 6547 RT0001		Jul-24-2009

Item # Qty P/N & Description

1	1 EA	SKID	S/N B48222
		P/N D350-748-201	W/O 88057
2	1 EA	SKID	S/N B48221
		P/N D350-748-201	W/O 88058
3	1 EA	SKID	S/N B48220
		P/N D350-748-201	W/O 88059
4	1 EA	SKID	S/N B48223
		P/N D350-748-201	W/O 88060

S 09/07/30

**CERTIFICATE OF
CONFORMANCE**

**CADORATH PLATING CO. LTD.
2150 LOGAN AVENUE
WINNIPEG, MANITOBA R2J-0J1**

DATE: Jul-24-2009

CONSIGNED TO: Dart Aerospace Ltd.
1270 Aberdeen St
Hawksbury, ON K6A 1K7

W/O #: 88057

INVOICE #: 45402

**CONTRACT OR
PURCHASE ORDER # 10020**

DESCRIPTION: SKID

QTY 1

P/N # D350-748-201

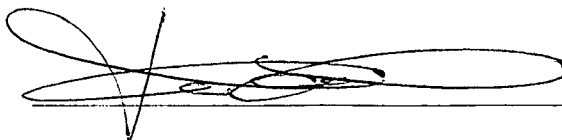
S/N # B48222

**STRESS RELIEFE. MPI IAW ASTM-E-1444. CADMIUM PLATE IAW
AMS-QQ-P-416B TYPE 2 YELLOW CLASS 2. BAKE HEAT CHARTS #
10651 AND 10700.**

S 09/07/30

**CERTIFICATE: I certify that the items indicated here on have
been inspected and tested and conform to all specifications
and requirements detailed on the contract or purchase order.**

Approved Inspector:



5.0 PARTS LIST

Qty -101	Qty -201	Part Number	Description
X		D350-748-101	CROSSTUBE INSTALLATION, AS 350/355 HIGH FWD
	X	D350-748-201	CROSSTUBE INSTALLATION, AS 350/355 HIGH AFT
1		D350-748-141	CROSSTUBE ASSEMBLY, AS 350/355 HIGH FWD
	1	D350-748-241	CROSSTUBE ASSEMBLY, AS 350/355 HIGH AFT
*2	*2	D3502-1	SUPPORT
*2	*2	D2856-400-710	ABRASION STRIP
*1	*1	AELS-1032-225	INSERT
*2	*2	MS21920-20	CLAMP
*1	*1	MS27039-1-10	SCREW
*1	*1	AN960JD10	WASHER
4	4	D3500-1	SADDLE
16	16	D3501-1	BUSHING
16	16	AN4-6A	BOLT
8	8	AN4-41A	BOLT
4	4	AN5-32A	BOLT
32	32	AN960JD416	WASHER
8	8	AN960JD516	WASHER
24	24	MS21042L4	NUT (OR MS21042-4)
4	4	MS21042L5	NUT (OR MS21042-5)

* REFERENCE ONLY. PARTS ARE INCLUDED IN D350-748-141/241 ASSEMBLIES ABOVE

2022/4

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Revision: **B**

Date: 07.06.15